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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,935

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Guenther Hambitzer

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7590

02/01/2010

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WASHINGTON, DC 20005

EXAMINER

ARCIERO, ADAM A

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

02/01/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No. 10/572,935	Applicant(s) HAMBITZER ET AL.	
	Examiner ADAM A. ARCIERO	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 10-16, 20-29, 35 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 17-19 and 30-34 is/are rejected.
- 7) ☐ Claim(s) 1-9, 17-19 and 30-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/22/2006; 09/19/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

ELECTROCHEMICAL BATTERY CELL

Examiner Adam Arciero

S.N. 10/572,935

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January 20, 2010

Election/Restrictions

1. Applicant's election of Group I, claims 1-9, 17-19 and 30-34, in the reply filed on September 29, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claims 1-9, 17-19 and 30-34 are objected to because of the following informalities: The use of the term "arranged and adapted" in the aforementioned claims is improper. It is noted that the courts have held that functional "adapted to" statements do not define any structure, and accordingly cannot serve to distinguish over the prior art. See *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957). Appropriate corrections are required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As to Claims 17-19, the term “essentially” is a relative term which renders the claims indefinite. The term “essentially” is not defined by the claim the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. See MPEP 2173.05(b). For the interest of compact prosecution, claims 17-19 are examined as reciting “...which is free of...”

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 17-19 and 30-34 rejected under 35 U.S.C. 102(b) as being anticipated by Hambitzer et al. (WO 00/79631 using US 6,730,441 B1 as English equivalent).

As to Claim 1, Hambitzer et al. disclose a battery comprising a negative electrode having an active mass deposited thereon in the charged state, positive electrode and an electrolyte based on SO₂ (Abstract).

As to Claim 2, Hambitzer et al. disclose a separator (porous insulator structure) which is placed between said positive and said negative electrodes (runs adjacent and parallel to said electrodes) (col. 7, lines 1-6). The active metal is deposited on the negative electrode and is removed therefrom during the charge/discharge process, respectively, thereby passing through the porous insulating layer (separator) (col. 7, lines 7-14).

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As to Claims 3-4, Hambitzer et al. disclose wherein the negative electrode takes in the active metal ions during charging of the cell (col. 7, lines 7-14). Furthermore, said negative electrode comprises an electronically conductive electrode mass (col. 7, lines 1-14).

As to Claim 5, Hambitzer et al. disclose wherein said negative electrode comprises carbon (col. 7, lines 7-14).

As to Claim 6, Hambitzer et al. disclose a deposition layer comprising a carrier body (glass or ceramics) and additional salt provided in the pores of the carrier body (col. 5, lines 25-32).

As to Claim 17, the limitation of “for an electrochemically battery cell, in particular for a battery cell according to claim 1” is an intended use for an insertion electrode and is not given patentable weight. See MPEP, 2111.02, “If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significant to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999).

Hambitzer et al. disclose wherein the negative electrode is an insertion electrode (electrodes which contain the active metal in their interior in such a manner that it is ready for the exchange with the electrolyte during charging and discharging of the cell) (col. 7, lines 7-14).

As to Claim 18, Hambitzer et al. does not specifically disclose wherein the insertion electrode is essentially free of H⁺ ions. However, it is the position of the Examiner that such properties are inherent, given that the materials and structure of the battery of Hambitzer et al.

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and the present application are the same. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities of possibilities. *In re Robertson*, 49 USPQ2d 1949 (1999). Applicant is advised to submit other information with respect to Hambitzer et al. negative electrode, if it is shown to be patentably distinct from the instant invention.

As to Claim 19, Hambitzer et al. does not specifically disclose wherein the insertion electrode's surface is essentially free of hydroxide ions. However, it is the position of the Examiner that such properties are inherent, given that the materials and structure of the battery of Hambitzer et al. and the present application are the same. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities of possibilities. *In re Robertson*, 49 USPQ2d 1949 (1999). Applicant is advised to submit other information with respect to Hambitzer et al. negative electrode, if it is shown to be patentably distinct from the instant invention.

As to Claims 30-31, Hambitzer et al. disclose wherein the active metal is lithium, sodium, calcium or zinc (col. 1, lines 20-26).

As to Claim 32, Hambitzer et al. disclose wherein the positive electrode comprised a metal oxide (col. 4, lines 10-12).

As to Claims 33-34, Hambitzer et al. disclose wherein the positive electrode contains an intercalation compound of CoO_2 (col. 4, lines 25-32).

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hambitzer et al. (WO 00/79631 using US 6,730,441 B1 as English equivalent).

As to Claim 7, Hambitzer et al. disclose a separator made of an oxide (col. 7, lines 7-14). Hambitzer et al. does not specifically disclose the pore shapes of the separator (insulator layer). Furthermore, the courts have held that regarding changes in shape of the pores of the insulator would be obvious absent persuasive evidence that the particular configuration of the claim was significant. See *In re Dailey*, 357 F.2d 669, 149, USPQ 47 (CCPA 1966).

As to Claim 8, Hambitzer et al. disclose wherein the separator is an oxide (col. 7, lines 7-14).

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hambitzer et al. (WO 00/79631 using US 6,730,441 B1 as English equivalent) as applied to claims 1-8, 17-19 and 30-34 above, and in further view of Groebel et al. (US 4,283,469).

As to Claim 9, Hambitzer et al. does not specifically disclose wherein the porous insulator contains a binder based on a terpolymer of tetrafluoroethylene, hexafluoropropylene and vinylidene fluoride.

However, Groebel et al. teach the use of a separator comprising aluminum oxide further comprising a binder of polytetrafluoroethylene (col. 3, line 66 to col. 4, line 6). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the separator of Hambitzer et al. with a binder such as “Teflon”, because Groebel et al. teach that said separator can be bonded to an electrode by using such a binder.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 8am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795